REMARKS:

In the foregoing amendments, claims 8-14 were canceled and claims 15-22 were added to the application. New claim 16 corresponds to previously presented claim 8, new claim 18 corresponds to previously presented claim 10, new claim 20 corresponds to previously presented claim 11, new claim 21 corresponds to previously presented claim 12, and new claim 22 corresponds to previously presented claim 14. Claims 1-7 were previously canceled. Accordingly, claims 15-22 are in the application for consideration by the examiner.

Claims 8-14 were rejected under 35 U.S.C. § 112, second paragraph, as being vague and indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention. This rejection is set forth from the middle of page 2 through page 3 of the Official action, where the examiner included specific comments concerning the claims. New claims 15-22 address all the concerns set forth by the examiner in this rejection. Applicant respectfully submits that claims 15-22 particularly point out and distinctly claim the subject matter applicant regards as the invention within the meaning of 35 U.S.C. § 112, second paragraph. Therefore, applicant respectfully requests that the examiner reconsider and withdraw this rejection.

The Official action set forth a single prior art rejection of applicant's claims. Claims 8-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,090,020 of Bedwell. This rejection is set forth on pages 4 and 5 of the Official action. Applicant respectfully submits

that the teachings of Bedwell do not disclose or suggest the invention as set forth in claims 15-22 within the meaning of 35 U.S.C. § 102 or 35 U.S.C. § 103.

New claims 15 and 16 define that the "laser gas contains Xe gas other than halogen gas, rare gas and buffer gas." On the other had, the teachings of Bedwell propose that the laser gas includes halogen gas, rare gas (containing Xe) and buffer gas. The technique proposed by Bedwell simply uses Xe as the rare gas contained in the laser gas, whereas the technique of the presently claimed invention uses a certain gas as rare gas that is contained in the laser gas, and Xe is added separately from the rare gas. These techniques differ from each other, and one cannot suggest the other. By virtue of addition of Xe to the rare gas, as presently claimed, it is possible to achieve advantageous effects where the pulse output is increased and deviations of the pulses are eased. The teachings of Bedwell do not contemplate or suggest the addition of Xe to the laser gas mixture already containing the rare gas, nor that such addition of Xe provides the advantageous effects of increasing pulse output and reducing deviations of the pulses. Therefore, applicant respectfully submits that claims 15 and 16 are distinguishable from the teachings of Bedwell.

The teachings of Bedwell also do not contemplate or suggest the invention as set forth in applicant's claims 18-20. In particular, Bedwell does not describe that ArF excimer laser is used as a light source of a scanning type exposure device. This is an important aspect of the presently claimed invention and provides advantages to the presently claim invention. In order to

understand these advantages, please consider the following. The irradiation energy of laser light on one of exposure regions of a semiconductor chip is expressed by "number of pulses x pulse output." From this equation, it can be said that when the pulse energy is increased or the number of pulses is increased, a desired irradiation energy can be obtained. Between these two methods, because a processing speed can be accelerated when the pulse output is increased, an exposure capability of the scanning type exposure device can be improved. However, ArF excimer laser has a drawback that the pulse output is dispersed, which is a cause of uneven exposure of the scanning type exposure device. Accordingly, it is not preferable to increase the pulse output. In order to control this exposure unevenness, it is required to set the pulse output of ArF excimer laser to a value within a predetermined range and increase the number of pulses. However, when the main composition of the buffer gas of Ar excimer laser is Ne, a frequency cannot be increased for more than a predetermined frequency due to a gas flow rate in the chamber. Therefore, when ordinary ArF excimer laser is used as a light source of the scanning type exposure device, the exposure capability of the scanning type exposure device is inevitably lowered. These deficiencies are remedied by the presently claimed invention.

As described in applicant's specification at page 6, line 27, through page 7, line 13, when the main composition of the buffer gas of ArF excimer laser is He, it is possible to increase the gas flow rate compared to the case of Ne. Thus, the pulse frequency can be increased. That is, when ArF excimer laser

with the buffer gas mainly composed of He is used as a light source of the scanning type exposure device, as presently claimed, it is possible to improve the exposure capability of the scanning type exposure device. The teachings of Bedwell do not contemplate or suggest this arrangement of applicant's claimed invention or the advantages achieved thereby. Therefore, applicant respectfully submits that claims 18-20 are distinguishable from the teachings of Bedwell.

The teachings of Bedwell also do not contemplate or suggest the invention as set forth in applicant's claims 21 and 22. The arrangements of the first and second pipings in combination with the first, second and third valves and pressure gauge are specifically set forth in claims 21 and 22. These claims set forth a structure and method to easily add a trace quantity of Xe to the laser gas. The teachings of Bedwell do not remotely contemplate or suggest the structure and/or method set forth in these claims. Therefore, applicant respectfully submits that claims 21 and 22 are distinguishable from the teachings of Bedwell.

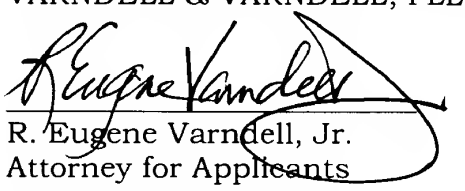
For the foregoing reasons, applicant respectfully submits that claims 15-22 are distinguishable from the teachings of Bedwell within the meaning of 35 U.S.C. § 102 or 35 U.S.C. § 103. Therefore, applicant respectfully requests that the examiner reconsider and withdraw the rejection over these teachings.

In light of the foregoing amendments and remarks, a formal allowance of claims 15-22 is respectfully requested. While it is believed that all the claims in this application are in condition for allowance, should the examiner have

any comments or questions, it is respectfully requested that the undersigned be telephoned at the below listed number to resolve any outstanding issues.

In the event this paper is not timely filed, applicant hereby petitions for an appropriate extension of time. The fee therefor, as well as any other fees which become due, may be charged to our deposit account No. 22-0256.

Respectfully submitted,
VARNDELL & VARNDELL, PLLC



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